

WHAT IS CLAIMED IS:

1. A seed of corn variety LH324, wherein a sample of the seed of the corn variety LH324 was deposited under ATCC Accession No. - - - - -.
2. A corn plant of corn variety LH324, wherein a sample of the seed of the corn
5 variety LH324 was deposited under ATCC Accession No. - - - - -.
3. A plant part of the corn plant of claim 2.
4. The plant part of claim 3, further defined as pollen, an ovule or a cell.
5. A corn plant expressing all of the physiological and morphological characteristics of the corn plant of claim 2.
- 10 6. The corn plant of claim 2, further comprising a nuclear or cytoplasmic gene conferring male sterility.
7. A method of producing a male sterile corn plant comprising introducing a nucleic acid molecule that confers male sterility into the plant of claim 2.
8. A male sterile corn plant produced by the method of claim 6.
- 15 9. A tissue culture of cells of a plant of corn variety LH324, wherein a sample of the seed of the corn variety LH324 was deposited under ATCC Accession No. - - - - -.
10. The tissue culture of claim 9, wherein the cells are derived from embryos, immature embryos, meristematic cells, immature tassels, microspores, pollen, leaves, anthers, roots, root tips, silk, flowers, kernels, ears, cobs, husks, or stalks.
- 20 11. A corn plant regenerated from the tissue culture of claim 9, wherein the corn plant is capable of expressing all of the physiological and morphological characteristics of corn variety LH324, wherein a sample of the seed of the corn variety LH324 was deposited under ATCC Accession No. - - - - -.
- 25 12. A process of producing corn seed, comprising crossing a first parent corn plant with a second parent corn plant, wherein one or both of the first parent corn plant or the second parent corn plant is a plant of corn variety LH324, wherein a sample of the seed of

the corn variety LH324 was deposited under ATCC Accession No. - - - - -, wherein seed is allowed to form.

13. The process of claim 12, further defined as a process of producing hybrid corn seed, comprising crossing a plant of corn variety LH324 with a second, distinct corn plant, wherein a sample of the seed of the corn variety LH324 was deposited under ATCC Accession No. - - - - -.

14. The process of claim 13, wherein crossing comprises the steps of:

- (a) planting the seeds of first and second inbred corn plants;
- (b) cultivating the seeds of said first and second inbred corn plants into plants that bear flowers;
- (c) preventing self pollination of at least one of the first or the second inbred corn plant;
- (d) allowing cross-pollination to occur between the first and second inbred corn plants; and
- (e) harvesting seeds on at least one of the first or second inbred corn plants, said seeds resulting from said cross-pollination.

15. The corn plant of claim 2, further comprising a transgene introduced by genetic transformation.

16. The corn plant of claim 15, wherein the transgene confers a trait selected from the group consisting of herbicide tolerance, insect resistance, disease resistance, yield enhancement, waxy starch, improved nutritional quality, decreased phytate content, modified fatty acid metabolism, modified carbohydrate metabolism, male sterility and restoration of male fertility.

17. A method of producing a transgenic corn plant, comprising introducing a transgene into a plant of corn variety LH324, wherein a sample of the seed of the corn variety LH324 was deposited under ATCC Accession No. - - - - -.

18. A method of producing an inbred corn plant derived from the corn variety LH324, the method comprising the steps of:

- 5 (a) preparing a progeny plant derived from corn variety LH324 by crossing a plant of the corn variety LH324 with a second corn plant, wherein a sample of the seed of the corn variety LH324 was deposited under ATCC Accession No. - - - - -;
- (b) crossing the progeny plant with itself or a second plant to produce a seed of a progeny plant of a subsequent generation;
- 10 (c) growing a progeny plant of a subsequent generation from said seed and crossing the progeny plant of a subsequent generation with itself or a second plant; and
- (d) repeating steps (b) and (c) for an additional 2-10 generations to produce an inbred corn plant derived from the corn variety LH324.

19. A method of producing a conversion of the corn variety LH324 to express at least one new trait, the method comprising the steps of:

- 20 (a) crossing a first corn plant having a first diploid genome comprising a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus, and further comprising a genetic locus that confers at least one new trait, with a second plant of the corn variety LH324, a sample of the seed of the corn variety LH324 having been deposited under ATCC Accession No. - - - - -, the plant of the corn variety LH324 having a second diploid genome comprising a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus, to produce seed comprising a diploid genome having a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus, wherein one of the alleles is contributed by the first corn plant and the other is contributed by the plant of the corn variety LH324, said genome further comprising the genetic locus that confers the new trait;
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- (b) harvesting and planting the seed thereby produced to produce at least one progeny plant of the first filial generation, said progeny plant comprising a diploid genome comprising the genetic locus;
- 5 (c) crossing said progeny plant with a plant of the corn variety LH324 to produce seed of a subsequent filial generation, the seed comprising a diploid genome having a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus, wherein one of the alleles is contributed by the progeny plant and the other is contributed by the plant of the corn variety LH324, and further comprising the genetic locus that confers the new trait;
- 10 (d) growing at least one progeny plant of the subsequent filial generation from the seed produced in step (c), said progeny plant comprising a genome comprising the genetic locus that confers the new trait;
- 15 (e) repeating steps (c) and (d) for at least one additional generation to produce a converted plant of the corn variety LH324 wherein the plant comprises a diploid genome having a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus, wherein both alleles at substantially all of the loci consist essentially of the allele found at the same locus in corn variety LH324, the genome further comprising the genetic locus that confers the new trait; and
- 20 (f) harvesting the seed of the converted plant.

20. The method of claim 19, wherein the genetic locus was stably inserted into a corn genome by genetic transformation.

25 21. The method of claim 19, wherein the new trait is selected from the group consisting of herbicide tolerance; insect resistance; disease resistance; yield enhancement; waxy starch; improved nutritional quality; decreased phytate content, modified fatty acid metabolism, modified carbohydrate metabolism;; male sterility and restoration of male fertility.

22. A converted plant of the corn variety LH324 produced by the method of claim 19.
23. A hybrid corn seed having a male parent and a female parent, wherein the male and female parents each comprise a diploid genome having a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus; the hybrid corn seed also comprising a diploid genome having a plurality of paired chromosomes comprising a plurality of mappable genetic loci with a pair of alleles at each locus, one of the alleles being contributed by the male parent and the other being contributed by the female parent, wherein one of the parents is a plant of the corn variety LH324, a sample of the seed of said corn variety LH324 having been deposited under ATCC Accession No. - - - -, and wherein the other parent is a plant of a different variety; whereby one allele at each locus in the hybrid genome consists essentially of the allele found at the same locus in corn variety LH324, and further whereby the other allele in a plurality of such loci in the hybrid genome is different from the allele found at the same locus in corn variety LH324.
24. A corn plant grown from the seed of claim 23.